



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/853,017	05/10/2001	Asaf Tamir	452/65048	5152
7590	12/17/2003		EXAMINER	
RICHARD F. JAWORSKI Cooper & Dunham LLP 1185 Avenue of the Americas New York, NY 10036			LAO, TIM P	
			ART UNIT	PAPER NUMBER
			2655	6
DATE MAILED: 12/17/2003				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/853,017	TAMIR ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Tim Lao	2655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-34 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_ is/are allowed.  
 6) Claim(s) 1-34 is/are rejected.  
 7) Claim(s) \_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. §§ 119 and 120

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
     1. Certified copies of the priority documents have been received.  
     2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
     3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.  
 13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
     a) The translation of the foreign language provisional application has been received.  
 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.

- 4) Interview Summary (PTO-413) Paper No(s). \_\_\_\_.  
 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Antebi et al. (International Pub. No. WO 00/21020).

Claim(s)	Antebi et al. disclose:	
1	<p>A method for verifying and identifying users, and for verifying users' identity (p.13, L.21-33), by means of an authentication device (smart card) capable of transmitting, receiving and recording audio (14~17KHz) and ultrasonic (17~50KHz) signals (p.3, L.2-17), and capable of converting said signals into digital data (A/D: p.18, L.6-7), and performing digital signal processing (Filters, demodulation, Fourier analysis: p.37, L.27-33), the method comprising: [The smart card (Fig.1, 30) comprises a microphone (Fig.1, 34), a memory, a voice input circuit, and an acoustic communication link between the voice input circuit and the memory and wherein the speech sounds or voices are inputted using the acoustic link (p.9, L.4-19). The purposes of the combination of these components comprise recording an authorized or a new user's voice input and storing the input data in the memory.]</p> <p>a) recording on said authentication device voice pattern(s) (biometric data) of one or more authorized user(s); [The smart card (Fig.1, 30) comprises a microphone (Fig.1, 34), a memory, a voice input circuit, and an acoustic communication link between the voice input circuit and the memory and wherein the speech sounds or voices are inputted using the acoustic link (p.9, L.4-19). The purposes of the combination of these components comprise recording an authorized or a new user's voice input and storing the input data in the memory.]</p> <p>b) storing on said authentication device user information (i.e., biometric information, personal ID information, passwords) providing identifying details of said authorized user(s); (p.3, L.18-22; p.9, L.24-25).</p> <p>c) inputting to said authentication device a vocal identification signal from a user; and (p.26, L.11, 20)</p> <p>d) comparing the voice pattern of said vocal identification signal with the</p>	R1
		R2
		R3
		R4
		R5

Art Unit: 2655

	<p>recorded voice pattern(s) of said authorized user(s), and if a match is detected issuing an indication that said user is identified as an authorized user. (p.4, L.7-9; p.9, L.23-26; p.13, L.8, 16-17)</p> <p>[The acquired biometric data (voice or speech) from the new user is compared with (matched against) the recorded (stored) biometric data from the authorized user. The result is displayed visually to indicate the verification of the authenticity of the user or user's information.]</p>	
Claim(s) 2	A method according to claim 1, wherein a predefined pattern of audio and/or ultrasonic signals is transmitted by said authentication device, whenever a match of voice patterns is detected. (p.13, L.14-15; p.28, L.5-6).	R6
Claim(s) 3	A method according to claim 1, wherein the authentication device emits a predefined pattern of light signals from a light-emitting device (LED), to indicate a match of voice pattern. (p.13, L.15-17; p.14, L.3-4; p.20, L.23; p.24, L.16)	R7
Claim(s) 4	<p>A method according to claim 1, wherein the authentication device is a credit card comprising a magnetic strip and/or a smart chip (p.13, L.19-20; p.24, L.6-9), the method further comprising the following steps:</p> <p>a) inputting to said authentication device a vocal identification signal from a user; and (p.26, L.11, 20)</p> <p>b) comparing the voice pattern of said vocal identification signal with the recorded voice pattern(s) of said authorized user(s), and if a match is detected activating said magnetic strip and/or a smart chip and allowing a magnetic card reader to read the card information therefrom. (p.4, L.7-9; p.9, L.23-26)</p> <p>[The acquired biometric data (voice or speech) from the new user is compared with (matched against) the recorded (stored) biometric data from the authorized user. The smart card has magnetic transmission and reception capabilities (p.24, L.6-9; p.36, L.13-24) as well as activation and deactivation capabilities (p.5, L.14-28). Therefore, the smart card can activate the magnetic strip based on the voice authentication of the user.]</p>	R8 R9 R10
Claim(s) 5	<p>A method according to claim 1, wherein the authentication device (smart card: Fig.1, 30) is utilized to permit the access of user(s) to a computerized system (Fig.1, 20), the method consisting of:</p> <p>a) providing a computerized system comprising:</p> <p>a.1) an audio signal input device (microphone: Fig.1, 26) capable of receiving ultrasonic signals; (p.16, L.7)</p> <p>a.2) a sound processing device (sound system: Fig.1, 24) suitable to receive inputs from said audio signal input device, and to receive audio and ultrasonic input signals, and capable of converting (sampling in frequency domain) said signals into digital data; (p.15, L.25-27; p.16, L.3-4)</p> <p>a.3) a data base (memory) containing of voice patterns of authorized users; (p.8, L.14; p.28, L.20-22)</p> <p>[The computer stores the authorized user's voice print and/or contents in the memory and retrieves the voice print and/or contents from the memory when it performs the comparison or authentication process.]</p>	R11 R12 R13 R14

Art Unit: 2655

	<p>a.4) an application (interaction software) capable of receiving digital data inputs from said sound processing device, of activating other applications (launching of a browser), and of transmitting digital data over network links (internet); (p.8, L.10-26) [The interaction software has to understand and to process the digital data from the sound system in order for it to launch a browser or to direct browser to a specific web page.]</p> <p>b) transmitting from said authentication device (smart card) an ultrasonic signal comprising the recorded voice pattern (biometric information); (Fig.1; p.3, L.2-5, L.18-22)</p> <p>c) receiving said ultrasonic signal by said audio signal input device (microphone); (Fig.1, 26; p.16, L.7)</p> <p>d) processing said ultrasonic signal and extracting said recorded voice pattern (p.41, L.3-4; p.13, L.2-3) therefrom; and [the ultrasonic signal is processed by the sound system of the computerized system using signal detection and analysis techniques. (p.16, L.3-4; p.41, L.1-6)]</p> <p>e) comparing said recorded voice pattern with the voice patterns stored in said database of authorized users, and if a match is detected enabling access to said computerized system. (p.28, L.8-22) [Voice from the user is verified and authenticated by the computerized system.]</p>	R15
Claim(s) 6	<p>A method according to claim 1, wherein the authentication device (smart card: Fig.1, 30) is utilized to permit the access of user(s) to a computerized system (Fig.1, 20), the method consisting of:</p> <p>a) inputting a vocal identification signal of a user to an authentication device; (p.26, L.11, 20)</p> <p>b) transmitting from said authentication device (smart card) an ultra sonic signal comprising said vocal identification signal (biometric information) and user information (personal ID, password, etc...) stored on said authentication device; (Fig.1; p.3, L.3-5, L.18-22)</p> <p>c) receiving said ultrasonic signal by said audio signal input device (microphone: Fig.1, 26; p.16, L.7), and processing said ultrasonic signal to extract therefrom said vocal identification signal and said user information (p.41, L.3-4; p.13, L.2-3); [The ultrasonic signal is processed by the computer using signal detection and analysis techniques. (p.16, L.3-4; p.40, L.34-35; p.41, L.1-6)]</p> <p>d) fetching from a database the voice pattern of the authorized user associated with said user information, and</p> <p>e) comparing the fetched voice pattern to the transmitted voice pattern and;</p> <p>e.1) if a match is detected enabling access to said computerized system;</p> <p>e.2) if a match is not detected, disabling the access to said computerized system.</p> <p>[Part d &amp; e represent a voice verification and authentication process for computer log-on (p.28, L.8-22). A purpose of the authentication process is to grant access if the user is authenticated or otherwise, to deny access.]</p>	R20 R21 R22 R23 R24

Art Unit: 2655

Claim(s) 7	<p>A method according to claim 6, wherein the user verification is performed at a remote server (Fig.4A, 50) connected to a computer network and/or the Internet (Fig.4A, 60), comprising:</p> <ul style="list-style-type: none"> <li>a) inputting a vocal identification signal of a user to an authentication device (smart card: Fig. 4A, 40); (p.26, L.11, 20)</li> <li>b) transmitting from said authentication device an ultra sonic signal comprising said vocal identification signal and user information stored on said authentication device; (Fig. 4A: smart card -&gt; microphone; p.30, L.28-29)</li> <li>c) receiving said ultrasonic signal by an audio signal input device (microphone), and processing (by the computer: Fig.4A, 62) said ultrasonic signal to extract said vocal identification signal and said user information; (p.30, L.29-30)</li> <li>d) transmitting said vocal identification signal and said user information to said remote server, via said computer network and/or the Internet over a secure link (encrypted communication: p.31, L.21-23); (Fig.4A: client computer -&gt; internet -&gt; remote server; p.30, L.30-33)</li> <li>e) receiving said vocal identification signal and said user information (biometric information carrying sound) by said remote server; (p.28, L.30-33)</li> <li>f) fetching from a database the voice pattern of the authorized user associated with said user information; and</li> <li>g) comparing the fetched voice pattern with the transmitted voice pattern, and;</li> </ul> <p>g.1) if a match is detected, enabling access to said remote server;  g.2) if a match is not detected, disabling the access to said remote server.</p> <p>[Part f and g represent an authentication process for remote server log-on or sign-on (p.5, L.33-35; p.30, L.20-21). A purpose of the authentication process is to grant access if the user is authenticated or otherwise, to deny access.]</p>	R25  R26  R27  R28  R29  R30  R31
Claim(s) 8	<p>A method according to claim 1, wherein the authentication device is utilized to permit the access of user(s) to a computerized system, the method consisting of: (Fig.1)</p> <ul style="list-style-type: none"> <li>a) inputting a vocal identification signal of a user to an authentication device; (p.26, L.11, 20)</li> <li>b) verifying the user identity, on said authentication device, by performing the following steps:</li> </ul> <p>b.1) processing said vocal identification signal to obtain the user's voice pattern; (p.40, L.34-35; p.41, L.1-6)</p> <p>b.2) comparing said voice pattern to the voice pattern stored on said authentication device (p.4, L.7-9; p.9, L.23-26), and transmitting an ultrasonic signal comprising a match (valid state) or mismatch (invalid state) indication, and the user information (Fig.1; p.3, L.3-5, L.18-22; p.14, L.3-7);</p> <p>[The comparison or matching is performed on the smart card.]</p>	R32  R33  R34  R35  R36

Art Unit: 2655

	<p>b.3) receiving said ultrasonic signal by an audio signal input device (Fig.1, 26; p.16, L.7), and processing said ultrasonic signal to extract said match or mismatch indication and said user information; and (p.41, L.3-4; p.13, L.2-3); [the ultrasonic signal is processed by the computer using signal detection and analysis techniques. (p.16, L.3-4; p.40, L.34-35; p.41, L.1-6)]</p> <p>b.4) enabling access to said computerized system whenever a match indication is extracted from said ultrasonic signal. [Part b.4 represents an authentication process for computer log-on (p.28, L.8-22). A purpose of the authentication process is to grant access if the user is authenticated or otherwise, to deny access.]</p>	R37  R38
Claim(s) 9	A method according to claim 5, wherein the vocal identification signal, and the user information, are converted into digital data (p.38, L.3-6) and modulated into an ultrasonic signal utilizing Frequency Shift Keying (FSK) techniques. (p.40, L.34-35; p.41, L.1-6) [The FSK techniques may be performed on the smart card, a computer, and/or an electronic device.]	R39
Claim(s) 10	A method according to claim 5, wherein the audio signal input is received through telephony infrastructures, thereby allowing the identification of users through said telephony infrastructures. (p.12, L.35; p.13, L.1) [A telephone maybe used instead of or in addition to the microphone of the computerized system.]	R40
Claim(s) 11	A method according to claim 10, further comprising an Interactive Voice Response (IVR) device/application for allowing access of authorized users to personal information, and/or manipulating said information. [An example of an IVR application is the interrogation process by the computer to the smart card for computer log-on (p.28, L.19-22). Another example is a financial interaction over an internet (p.31, L.15-20).]	R41
Claim(s) 12	A method according to claim 1, wherein voice recognition is utilized for the verification of authorized users, comprising a verification procedure in which the pronunciation (voice response of a predefined word or phrase (voice ID or password) is checked. (p.28, L.19-22)	R42
Claim(s) 13	<p>A method according to claim 1, wherein voice recognition is utilized to input into the authentication device vocal instructions received from the user, comprising:</p> <p>a) playing a vocal menu (announce acoustically: p.44, L.32-33), from the authentication device, where said vocal menu comprises an ordered list of possible options ("amount", "vendor name", "date"); (p.44, L.32-34)</p> <p>b) inputting a vocal signal comprising the options selected by the user to said authentication device; and [The card holder is requested to select and to approve, i.e., to voice sign (p.44, L.34; p.45, L.4-5).]</p> <p>c) performing the task(s) associated with the selected option(s). [For example, in the "amount" option, the amount of the transaction is agreed upon by the user. The user or the vendor may perform or authorize the transaction. (p.45, L.2-9)]</p>	R43  R44  R45  R46
Claim(s) 14	A method according to claim 13, further comprising carrying out arithmetic calculation in combination with the vocal menu, by performing the following steps:	R47

Art Unit: 2655

	<p>a) playing a vocal menu (announce acoustically: p.44, L.32-33) consisting one or more arithmetic operations (i.e., addition); [The user can authorize the amount and add a tip using the card (p.32, L.29).]</p> <p>b) vocally selecting a desired arithmetic operation; (i.e. adding a tip)</p> <p>c) vocally inputting the numeric value(s) (the amount &amp; the tip) on which said arithmetic operation (addition) should be performed;</p> <p>d) calculating the result of said arithmetic operation; and [The user is to approve and to voice sign the total amount (p.44, L.34; p.45, L.4-5).]</p> <p>e) vocally outputting said result. (announce acoustically the total amount)</p>	R48 R49 R50 R51 R52
Claim(s) 15	A method according to claim 14, further comprising calculating the extra payments to be paid in addition to a basic payment for a service, by activating an extra payment calculation function (i.e., adding a tip: p.32, L.29), vocally inputting the basic payment sum (the amount), calculating the extra payment (tip) to be paid according to said sum, and vocally outputting (announce acoustically) the extra payment calculation (total amount) result. [The user can authorize the amount and add a tip using the card (p.32, L.29).]	R53
Claim(s) 16	<p>A method according to claim 1, wherein voice recognition is utilized to input vocal instructions received from the user, to the authentication device, comprising instructions for launching a selected application (i.e. to display a certain web page), or for performing selected tasks on a computerized system, comprising:</p> <p>a) inputting to said authentication device an audio signal, received from the user, comprising instruction to carry out a desired task; (p.46, L.17)</p> <p>b) performing voice recognition procedures to recognize said desired task, spoken by the user; [The smart card has to recognize the instructions from the user in order to instruct the computer to display a web page (p.46, L.14-17).]</p> <p>c) transmitting an ultrasonic signal comprising instructions for carrying out said desired task to the computerized system, [The instructions are downloaded from the smart card to the computer (p.3, L.23-27; p.46, L.14-17).]</p> <p>d) receiving said ultrasonic signal by said audio signal input device, and processing said ultrasonic signal to extract said instructions; and [The computer receives the instructions to display a web page (p.46, L.20-31).]</p> <p>e) performing said instructions. (i.e., to display or configure a certain web page: p.46, L.16, 30-31)</p>	R54 R55 R56 R57 R58 R59
Claim(s) 17	An authentication device (smart card) capable of transmitting, receiving and recording audio and ultrasonic signals (p.3, L.2-17), and capable of converting said signal into digital data (A/D: p.18, L.6-7), and performing digital signal processing (Filters, demodulation, Fourier analysis: p.37, L.27-33), said authentication device comprising: [The smart card (Fig.1, 30) comprises a microphone (Fig.1, 34), a memory, a voice input circuit, and an acoustic communication link between the voice input circuit and	R60

Art Unit: 2655

	<p>the memory and wherein the speech sounds or voices are inputted using the acoustic link (p.9, L.4-19). The purposes of the combination of these components comprise recording an authorized or a new user's voice input and storing the input data in the memory.]</p> <p>a) an input device (microphone of the smart card: Fig.1, 34) capable of receiving audio and ultrasonic input signals (p.3, L.2-5; p.37, L.17-18) and of outputting an analog electric signal; [A microphone is an acoustic transducer (p.15, L.9-10) that converts sound into analog signal.]</p> <p>b) an analog-to-digital (A/D: p.18, L.6-7) converter suitable to receive analog electric signals from said input device, and to output equivalent digital signals;</p> <p>c) a memory device for storing data; (p.9, L.4-6)</p> <p>d) a press button for activating the device operation; (p.39, L.21-22)</p> <p>e) a processing unit (Fig.3A, 44) suitable to receive inputs from said press button (p.39, L.21-22), analog-to-digital converter (A/D: p.18, L.6-7), and to input and output digital data from/to said memory device; (p.17, L.24-27, L.31-34; p.18, L.3-5)</p> <p>f) digital-to-analog (D/A) converter suitable to receive digital signals from said processing unit, and to output equivalent analog signals; and (p.17, L.31-34) [The processor comprises signal and data processing circuitry such as a D/A converter, an amplifier to amplify the analog signal (p.18, L.7-8), and a driving/transmitting circuitry to drive the output such as a speaker (p.38, L.25).]</p> <p>g) an output device (amplifying and driving circuitry of the processor: p.17, L.31-34; and speaker of the smart card: p.3, L.5-6) capable of receiving analog electric signals (from D/A) and of transmitting audio and ultrasonic input signals (p.26, L.3-4, L.11-14), that receives analog signals from said digital to analog converter.</p>	R61
Claim(s) 18	An authentication device according to claim 17, comprising a light-emitting device (LED) in which a pattern of light pulses is issued by the processing unit to indicate a match. (p.13, L.15-17; p.14, L.3-4; p.20, L.23; p.24, L.16)	R68
Claim(s) 19	An authentication device according to claim 17, comprising a magnetic strip enabling said authentication device to carry out financial transactions (p.13, L.19-20; p.24, L.6-9), in which said magnetic strip is activated by said processing unit whenever a match of the voice pattern is achieved. (p.4, L.7-9; p.9, L.23-26) [The acquired biometric data (voice or speech) from the new user is compared with (matched against) the recorded (stored) biometric data from the authorized user. The smart card has magnetic transmission and reception capabilities (p.24, L.6-9; p.36, L.13-24) as well as activation or deactivation capabilities (p.5, L.14-28). Therefore, the smart card can activate the magnetic strip based on the voice authentication of the user.]	R69
Claim(s) 20	<p>An apparatus comprising a device according to claim 17, for permitting or denying access to a computerized system, comprising:</p> <p>a) a computerized system comprising:</p> <p>a.1) a sound processing device (sound card) for receiving audio and</p>	R70 R71 R72

Art Unit: 2655

	<p>ultrasonic signals, and for converting said signals into digital signals, and for receiving digital signals and outputting audio and ultrasonic signals; (p.15, L.25-27)</p> <p>a.2) an input device (sonic/ultrasonic microphone) for inputting audio and ultrasonic signals and for outputting their equivalent analog electric signals; (p.37, L.8-9) [A microphone is an acoustic transducer (p.15, L.9-10) that converts sound into analog signal.]</p> <p>a.3) means for connecting the output of said input device to said sound processing device; (Fig.1, 24, 26: microphone -&gt; sound system)</p> <p>a.4) software means for processing digital signals; and (p.37, L.15: part (e); p.38, L.3-6)</p> <p>a.5) a database of voice patterns of authorized users. (p.8, L.14; p.28, L.20-22) [The computer stores the authorized user's voice print and/or contents in the memory and retrieves the voice print and/or contents from the memory when it performs the comparison or authentication process.]</p>	R73 R74 R75 R76
Claim(s) 21	An apparatus according to claim 20, in which the input device is connected to telephony infrastructures, for inputting audio signals over telephone lines. (p.12, L.35; p.13, L.1) [A telephone maybe used instead of or in addition to the microphone of the computerized system.]	R77
Claim(s) 22	<p>A credit-card sized apparatus (smart card in the form of a credit card: p.13, L.19-20) capable of receiving and processing audio signals (p.3, L.2-17; Filters, demodulation, Fourier analysis: p.37, L.27-33), comprising:</p> <p>a) a power source; (p.11, L.17)</p> <p>b) an input device (voice input circuit) capable of receiving human voice (biometric data) inputs; and (p.9, L.16-19)</p> <p>c) a data processing device (processor) capable of processing said human voice (biometric data) inputs. (p.9, L.23-24)</p>	R78 R79 R80 R81
Claim(s) 23	An apparatus according to claim 22, further comprising a device for outputting human-audible sounds. (p.22, L.26-27; p.23, L.30-33)	R82
Claim(s) 24-26	The vocal identification signal, and the user information, are converted into digital data and modulated into an ultrasonic signal utilizing Frequency Shift Key techniques. (p.40, L.34-35; p.41, L.1-6) [The FSK techniques may be performed on a computer and/or smart card. The computer and smart card each comprises an A/D converter.]	R83
Claim(s) 27-34	The audio signal input is received through telephony infrastructures, thereby allowing the identification of users through said telephony infrastructures. (p.12, L.35; p.13, L.1) [A telephone maybe used instead of or in addition to the microphone of the computerized system.]	R84

**Conclusion**

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

**U.S. Patent Documents:**

[A] 6,607,136 B1      08/2003      Atsmon et al.

[B] 2003/0159040 A1      08/2003      Hashimoto et al.

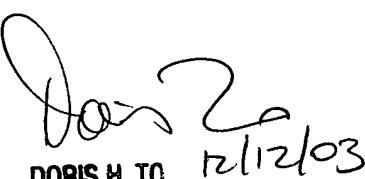
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tim Lao whose telephone number is 703-305-8955. The examiner can normally be reached on M-F, 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on 703-305-4827. The fax phone number for the organization where this application or proceeding is assigned is 703-305-9508.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-9000.

Tim Lao  
Examiner  
Art Unit 2655

TL  
12/05/03

  
DORIS H. TO 12/12/03  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800